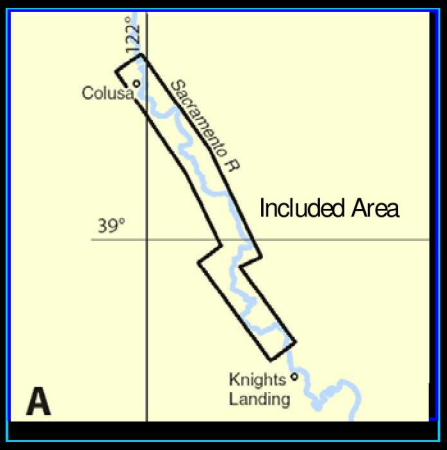
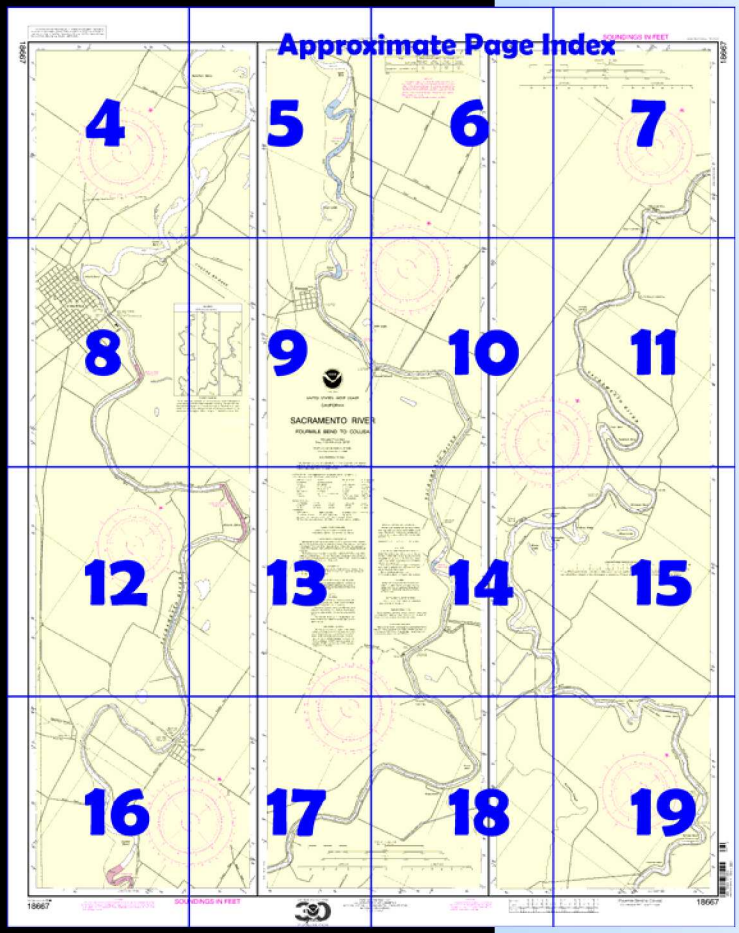
BookletChart™

Sacramento River – Fourmile Bend to Colusa

(NOAA Chart 18667)





A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ☑ *Complete, reduced scale nautical chart*
- ☑ *Print at home for free*
- ☑ *Convenient size*
- ☑ *Up to date with all Notices to Mariners*
- ☑ *United States Coast Pilot excerpts*
- ☑ *Compiled by NOAA, the nation's chartmaker.*

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Home Edition (not for sale)

Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
301-713-2770

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

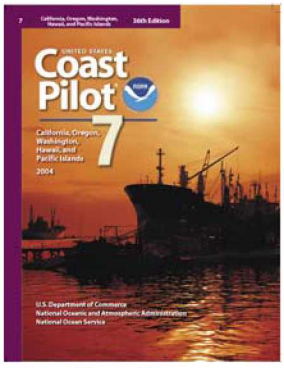
This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



[Coast Pilot 7, Chapter 7 excerpts]

(630) **Sacramento River** rises in the Trinity Mountains in N central California, flows S for 325 miles, and enters Suisun Bay on the N side of **Sherman Island.** Deep-draft vessels follow the lower Sacramento River to Cache Slough, 1.5 miles above Rio Vista Bridge, thence through a deepwater ship channel to Sacramento, a distance of 37 miles above the mouth of the river. Barges and other small craft also use Sacramento River all the way to Sacramento, a distance of 50 miles. Above Sacramento, small craft go to Colusa, 125 miles above the mouth, but there is no regular navigation above this point.

(634) **Sacramento River Deep Water Ship Channel** extends from Suisun Bay through lower Sacramento River, Cache Slough, and a 22–mile land cut to a triangular harbor and turning basin at the Port of Sacramento. The **William G. Stone Lock**, is on the barge canal connecting the Deep Water Ship Channel with the Sacramento River at Sacramento. In November 1987, the lock was closed to all navigation. Project dimensions follow: ship channel, 30 feet deep, 200 to 300 feet wide; barge canal, 13 feet deep, 120 feet wide; navigation lock, usable length of 600 feet, 86 feet wide, 13 feet deep. (See **207.640,** chapter 2, for navigation regulations for the navigation lock and for the deepwater ship canal.)

(635) The project depth in the ship channel is generally maintained. (See Notice to Mariners and latest editions of charts for controlling depths.) In June 1978, shoaling was reported in the vicinity of Sacramento Bend between the lock and the Sacramento River. The best water, marked by buoys, was reported to be along the south shore. Extreme caution is advised when entering or leaving the lock. The controlling depth in the river route is about 10 feet. Above Sacramento, the controlling depth is about 6 feet to Colusa.

The sounding datum is **mean lower low water at low-river stage.**

(636) Numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along the edges of the river. Mariners are advised to exercise extreme caution while navigating close to the banks of the river.

(692) Above Sacramento the prevailing flood conditions are as follows: At Verona at the junction of Feather River, 70 miles above the mouth, 20 feet at ordinary floods and 24 feet at extreme floods; at Colusa, 125 miles above the mouth, 25 feet at ordinary floods and 32 feet at extreme floods.

(693) Between Sacramento and Colusa are numerous warehouses and small landings.

(694) The minimum clearance of the swing and bascule span bridges over the Sacramento River between Sacramento and Colusa is 29 feet at low water, and of the fixed bridges 55 feet at high water and 82 feet at low water. (See **117.1 through 117.59 and 117.189**, chapter 2, for drawbridge regulations.) The minimum clearance of the overhead power cables across the river is 60 feet.

Table of Selected Chart Notes

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

PLANE COORDINATE GRID

Corps of Engineers plane coordinate grid is indicated by dashed ticks at 4,000 foot intervals

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOAA VHF-FM WEATHER BROADCASTS

The National Weather Service station listed below provides continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Sacramento, CA	KEC-57	162.55 MHz

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.368" southward and 3.878" westward to agree with this chart.

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

NOTE B
CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along edges of the waterway.

Numerous buoys and signs mark the wing dams, along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The river bed at Gravel Pt., Ogden Bend, and Missouri Bend has shifted. No recent depth information available.

BRIDGE AND OVERHEAD CABLE CLEARANCES

Clearances are charted as furnished by the Corps of Engineers. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, California or at the office of the District Engineer, Corps of Engineers in Sacramento, California.

Refer to charted regulation section numbers.

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

TIDAL INFORMATION

Place Name	(LAT/LONG)	Height referred to datum of soundings (MLLW): Mean Higher High Water	Mean High Water	Mean Low Water	Extreme Low Water
Sacramento	(38°35'N/121°30'W)	feet 2.9	feet 2.6	feet 0.3	feet 1.5

(200)

ABBREVIATIONS

(For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical
Al alternating
B black
Bn beacon
C can
DIA diaphone
F fixed
Fl flashing
G green
IQ interrupted quick
Iso isophase
LT HO lighthouse
M nautical mile
m minutes
MICRO TR microwave tower
Mkr marker
Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
Q quick
R red
Ra Ref radar reflector
R Bn radiobeacon
R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles
VQ very quick
W white
WHIS whistle
Y yellow

Bottom characteristics:

Blds boulders
bk broken
Cy clay
Co coral
G gravel
Grs grass
gy gray
h hard
M mud
Oys oysters
Rk rock
S sand
so soft
Sh shells
sy sticky

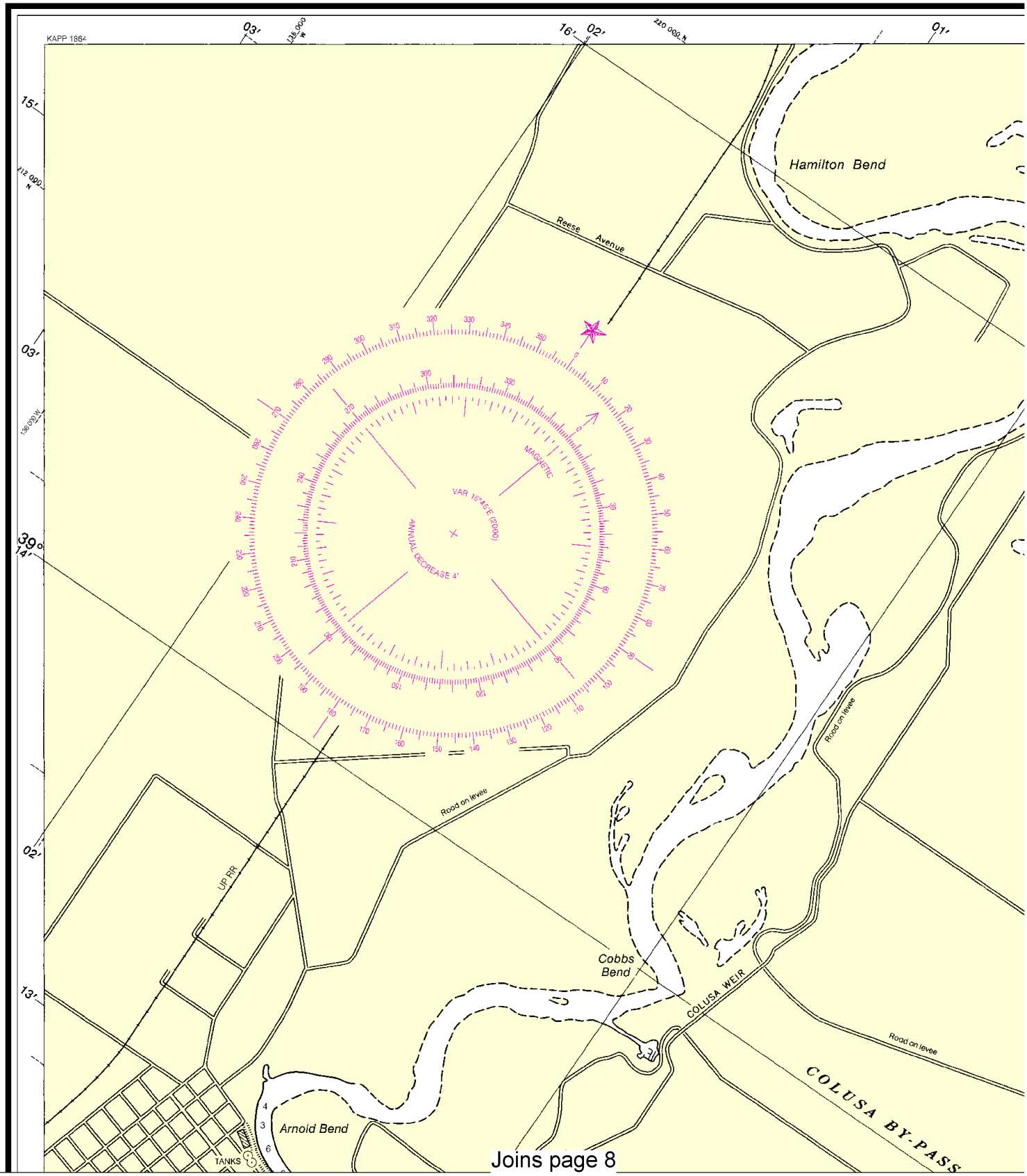
Miscellaneous:

AUTH authorized
ED existence doubtful
Obstn obstruction
PA position approximate
PD position doubtful
Rep reported
Subm submerged

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

18667

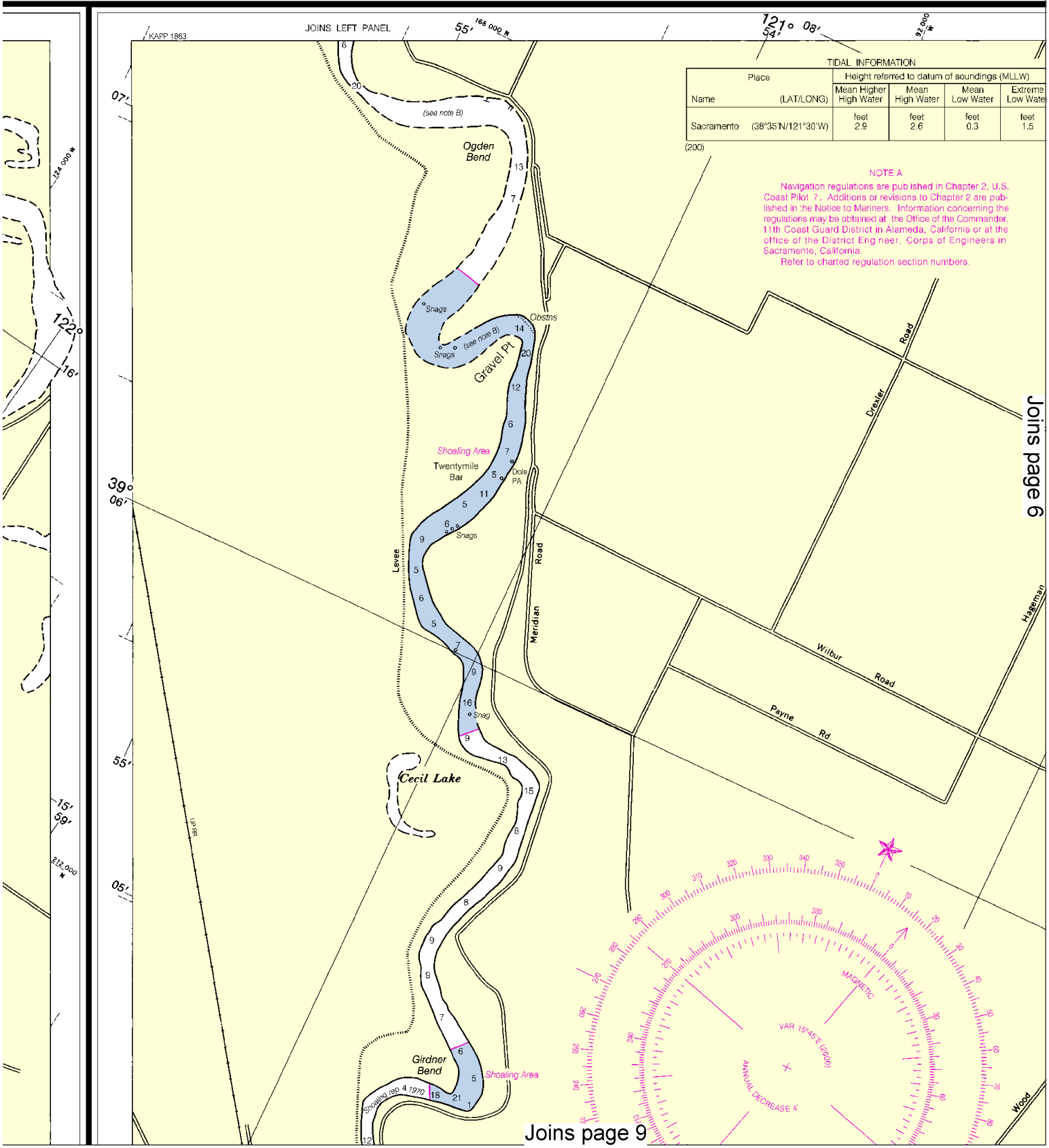


4

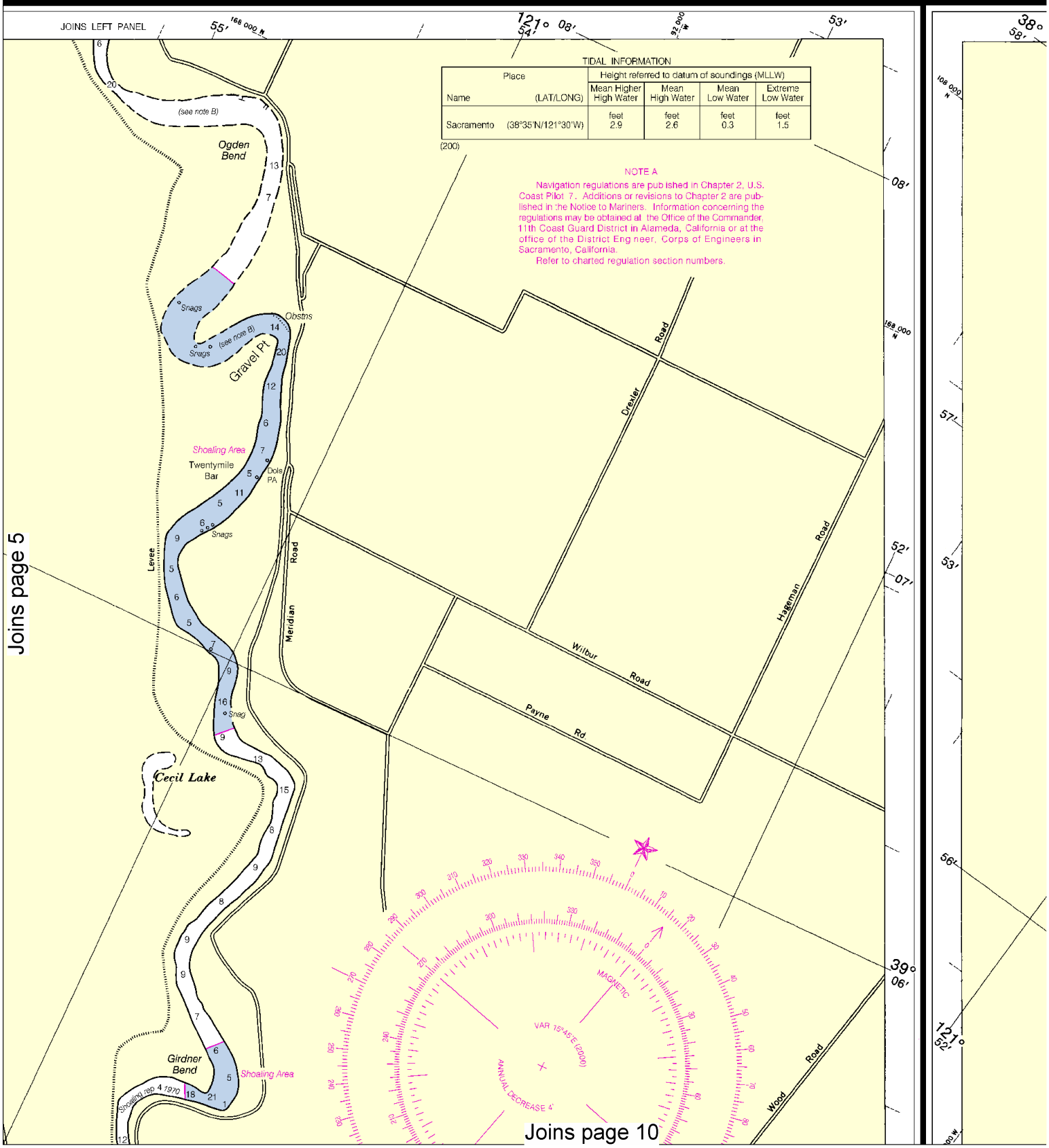
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500



This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:26667. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



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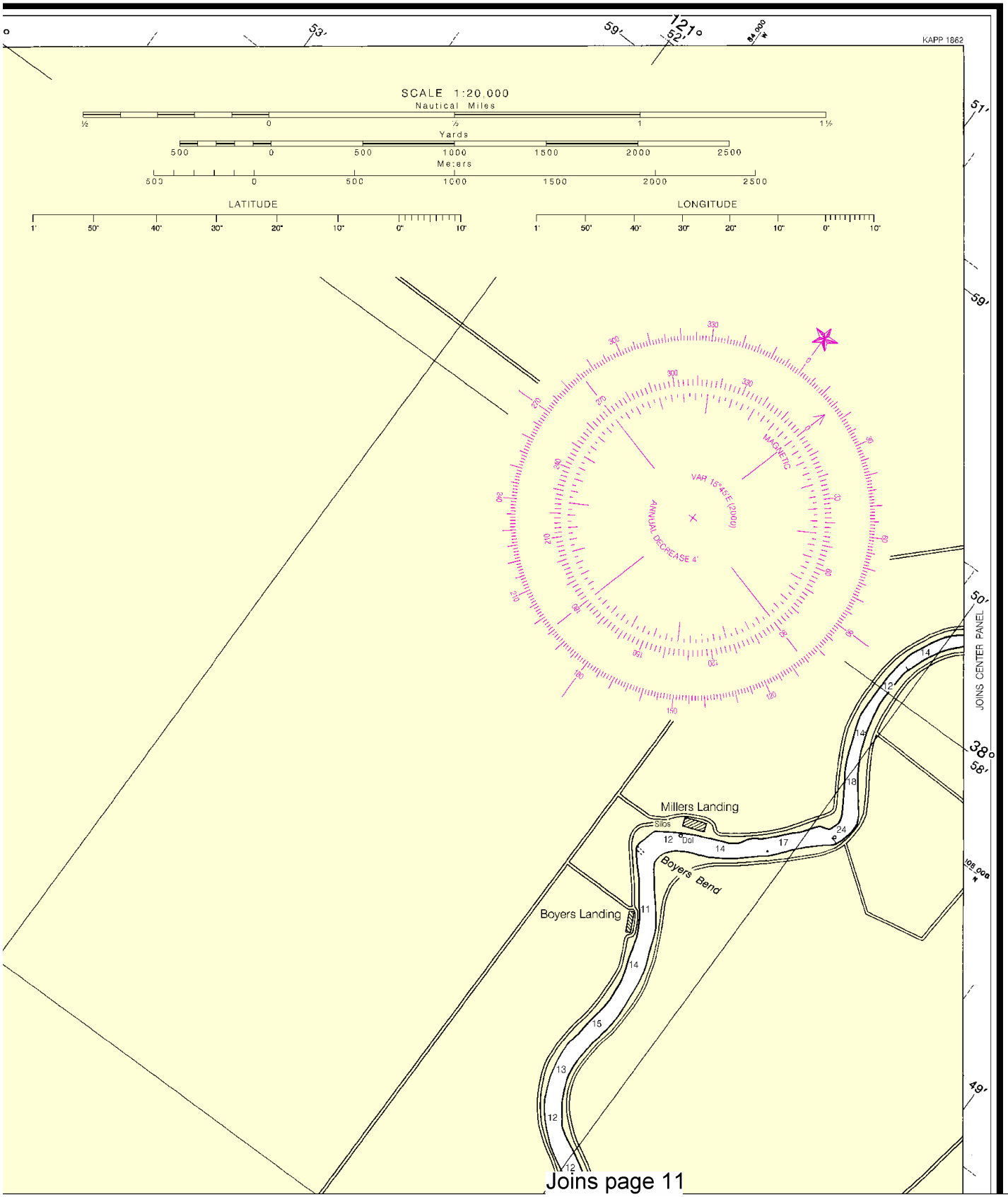
Nautical Miles: 0 — 1 — 1 ½

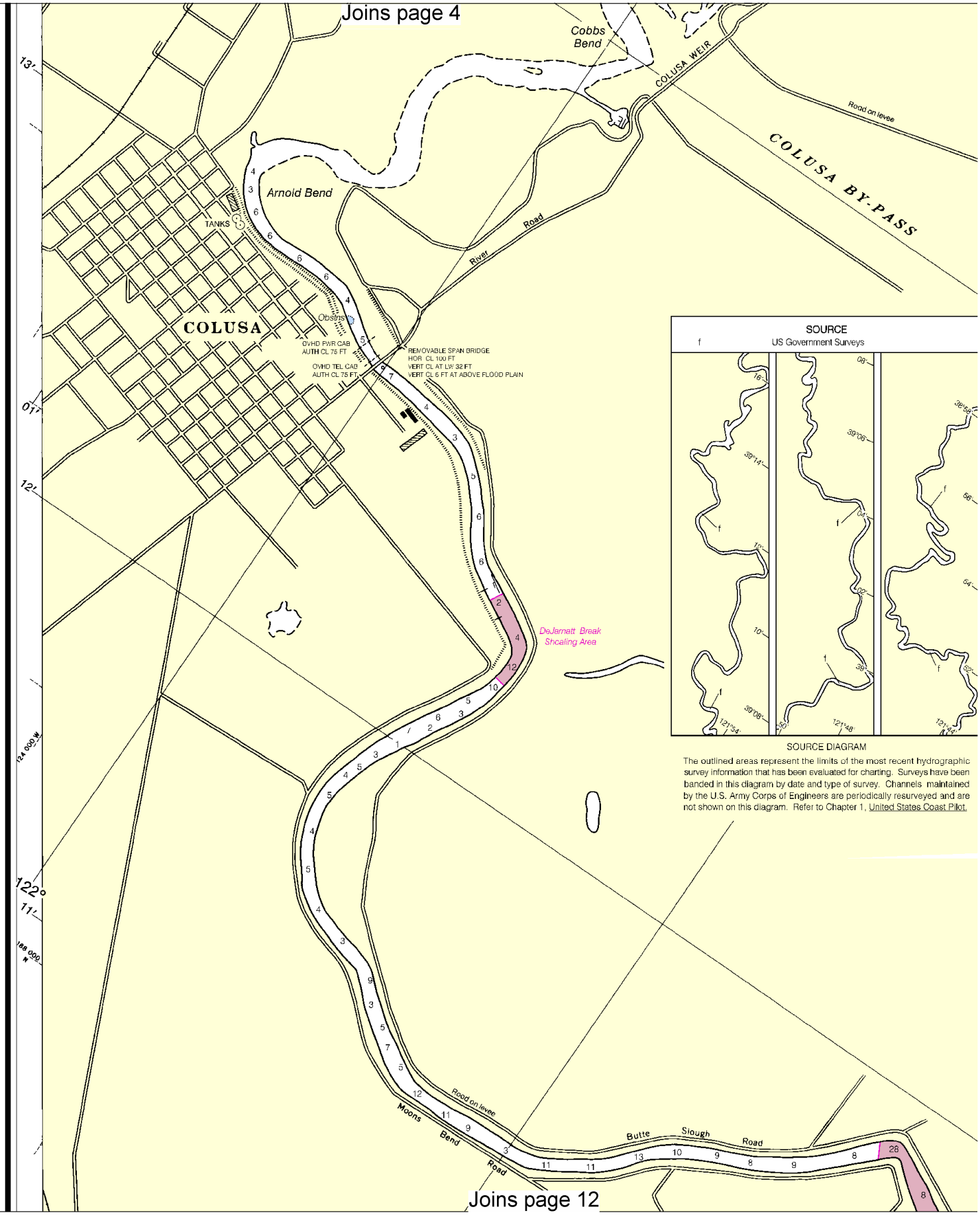
Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500



Joins page 11

This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 0510 2/2/2010,
NGA Weekly Notice to Mariners: 0910 2/27/2010,
Canadian Coast Guard Notice to Mariners: n/a .

Joins page 4



SOURCE

f US Government Surveys

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

Joins page 12

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

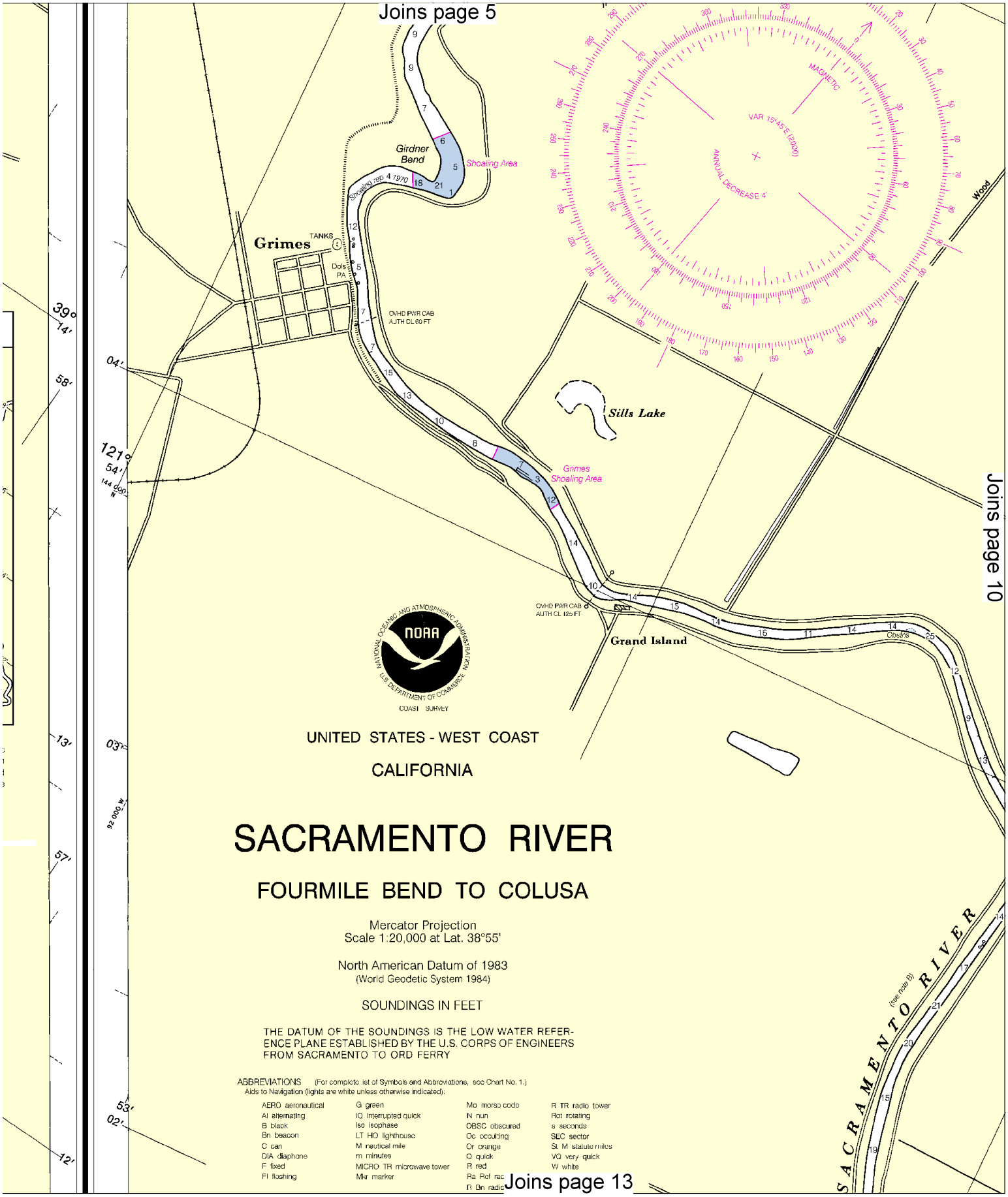
Nautical Miles

0 1 1½

Yards

500 0 500 1000 1500 2000 2500

Joins page 5



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NOAA
U.S. DEPARTMENT OF COMMERCE
COAST SURVEY

UNITED STATES - WEST COAST

CALIFORNIA

SACRAMENTO RIVER

FOURMILE BEND TO COLUSA

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

North American Datum of 1983
(World Geodetic System 1984)

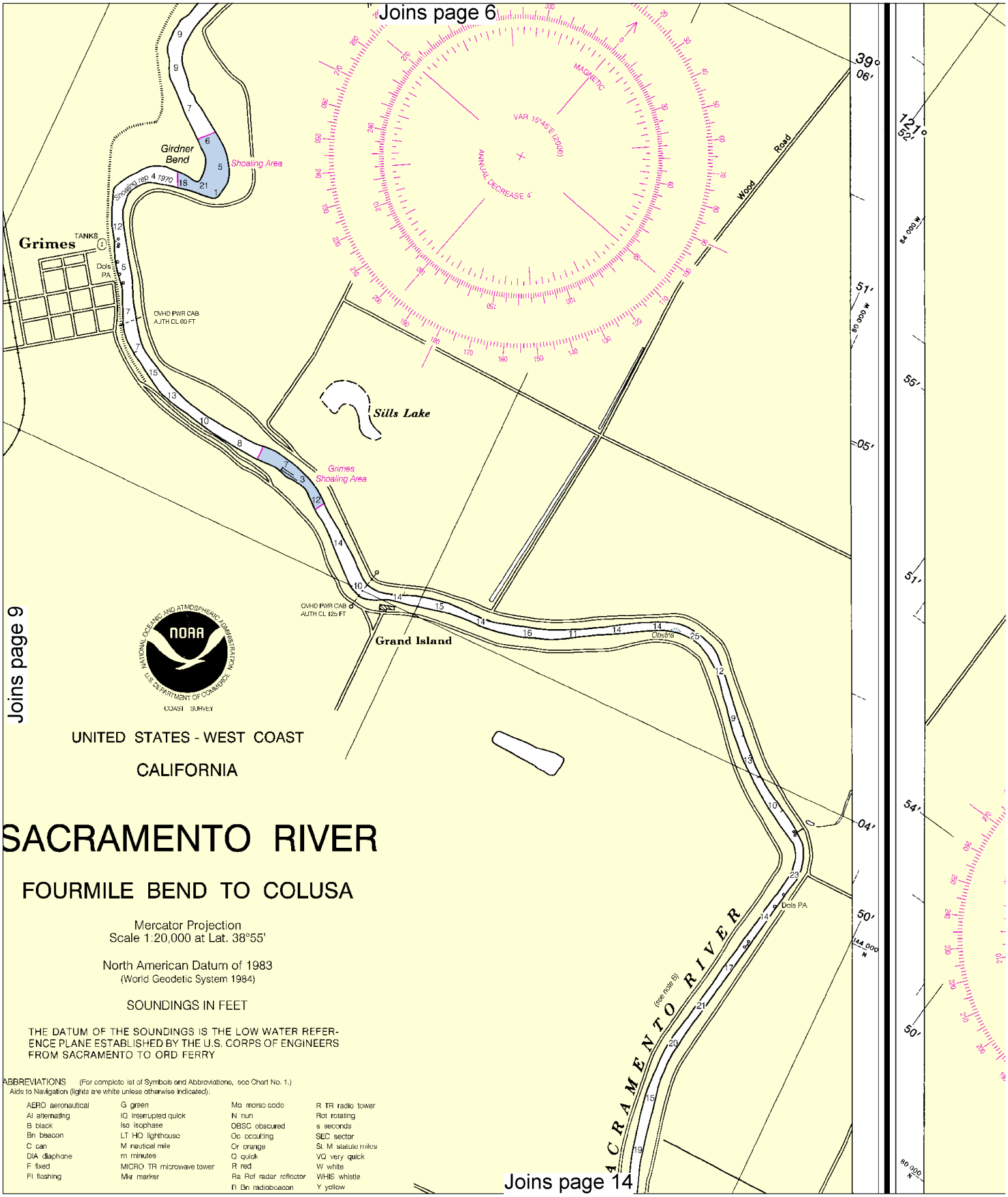
SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref rac	
		R Bn radio	

Joins page 13



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
COAST SURVEY

UNITED STATES - WEST COAST

CALIFORNIA

SACRAMENTO RIVER

FOURMILE BEND TO COLUSA

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

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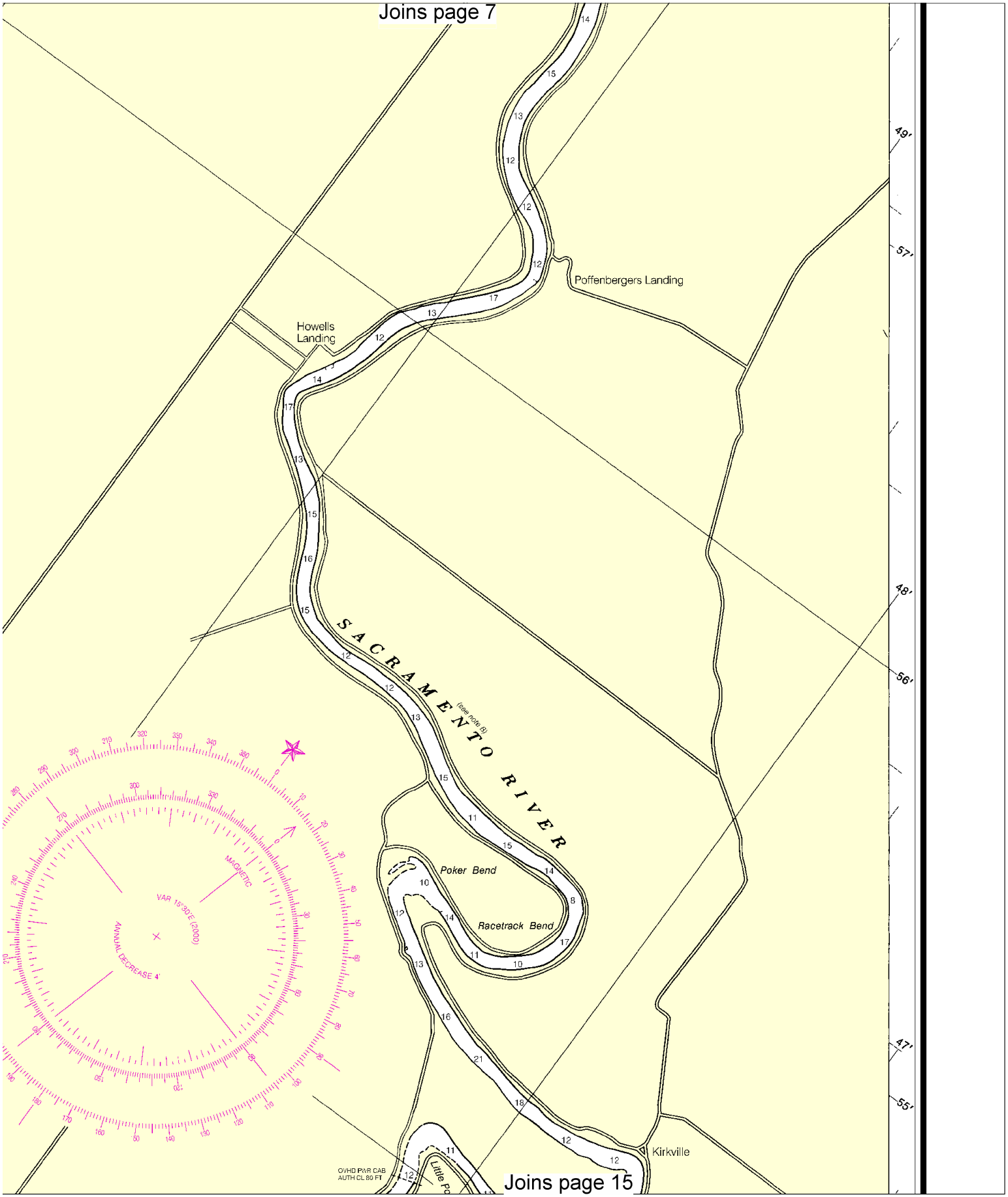
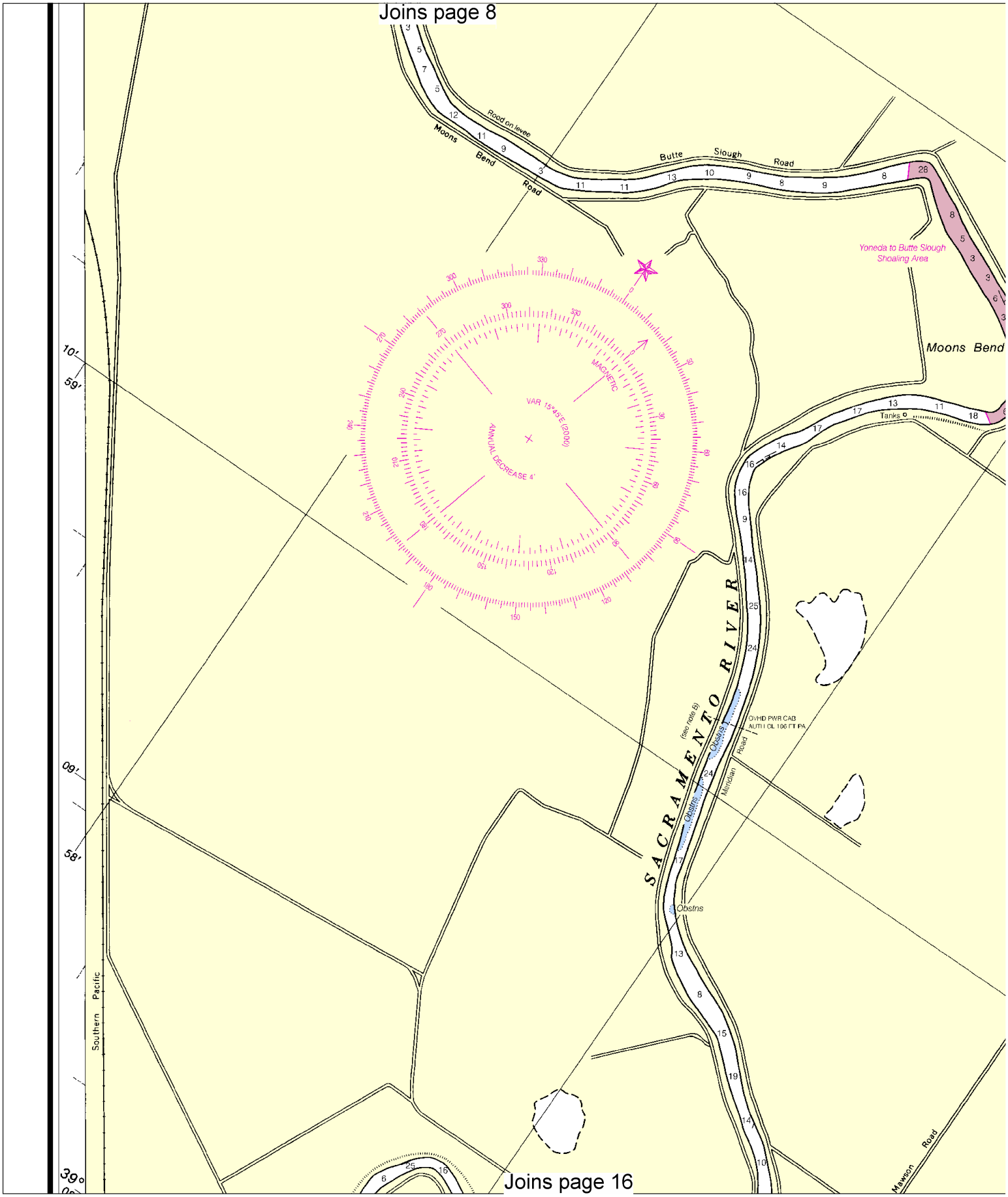
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		Rl Bn radiobeacon	Y yellow

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500


Joins page 7
Howells Landing
Poffenbergers Landing
SACRAMENTO RIVER
(see note 6)
Poker Bend
Racetrack Bend
Kirkville
OVHD PWR CAB
AUTH CL 80 FT
Joins page 15
MAGNETIC
VAR 15°30'E (2000)
ANNUAL DECREASE 4'
49'
57'
48'
56'
47'
55'



12

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles

0 1 1½

Yards

500 0 500 1000 1500 2000 2500

Joins page 9

SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

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F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized; Obstn obstruction; PD position doubtful; Submr submerged
ED existence doubtful; PA position approximate; Rep reported

21. Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

PLANE COORDINATE GRID

Corps of Engineers plane coordinate grid is indicated by dashed ticks at 4,000 foot intervals

SACRAMENTO RIVER DEPTHS

Although the soundings on this chart depict the general trends in depths, they are unreliable because of continual scouring or shoaling due to changing river stages. The areas which frequently shoal to the extent that passage of vessels drawing over 4 feet is difficult at extreme low water stages are shaded in purple.

The Federal project provides for a shallow-draft channel, 6 feet deep at low water, from Sacramento to Colusa. The Corps of Engineers conducts annual maintenance dredging operations to provide project depth. Consult the District Engineer in Sacramento for controlling depths.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

BRIDGE AND OVERHEAD CABLE CLEARANCES

Clearances are charted as furnished by the Corps of Engineers. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

NOTE B
CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along edges of the waterway.

Numerous buoys and signs mark the wing dams, along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The river bed at Gravel Pt., Ogden Bend, and Missouri Bend has shifted. No recent depth information available.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.368" southward and 3.878" westward to agree with this chart.

NCAA VHF-FM WEATHER BROADCASTS

The National Weather Service station listed below provides continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Sacramento, CA KEC-57 162.55 MHz

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) ○(Approximate location)

CAUTION

Bridge and cable horizontal clearances not subject to tidal influence are referenced to ordinary summer low water level. During flood stage levels, clearances may be reduced by 29 feet or more.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

SACRAMENTO R... (see note B)

OVHD PWR CAB AUTH CL 80 FT

Wilsons Shoaling Area

TISDALE WEIR

Pump House

Wilkins Slough

POLE

POLE

Pump House

OVHD PWR CAB AUTH CL 125 FT

Fraziers Landing

MAGNETIC

VAR 15°45'E (2000)

Joins page 14

Joins page 17

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

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Joins page 10

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bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

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Station positions are shown thus:
⊙(Accurate location) ○(Approximate location)

CAUTION

Bridge and cable horizontal clearances not subject to tidal influence are referenced to ordinary summer low water level. During flood stage levels, clearances may be reduced by 29 feet or more.

SUPPLEMENTAL INFORMATION

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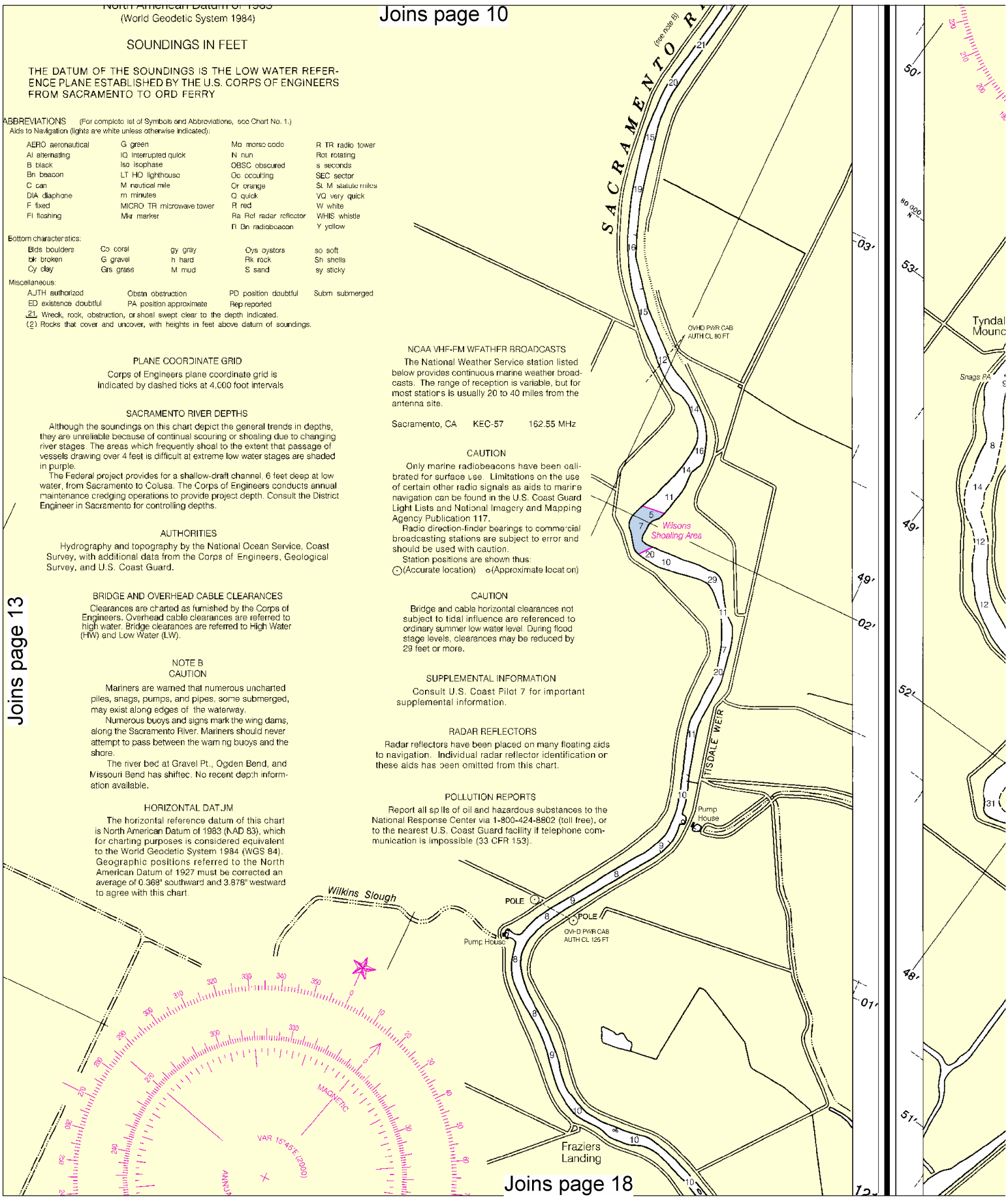
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

Joins page 13

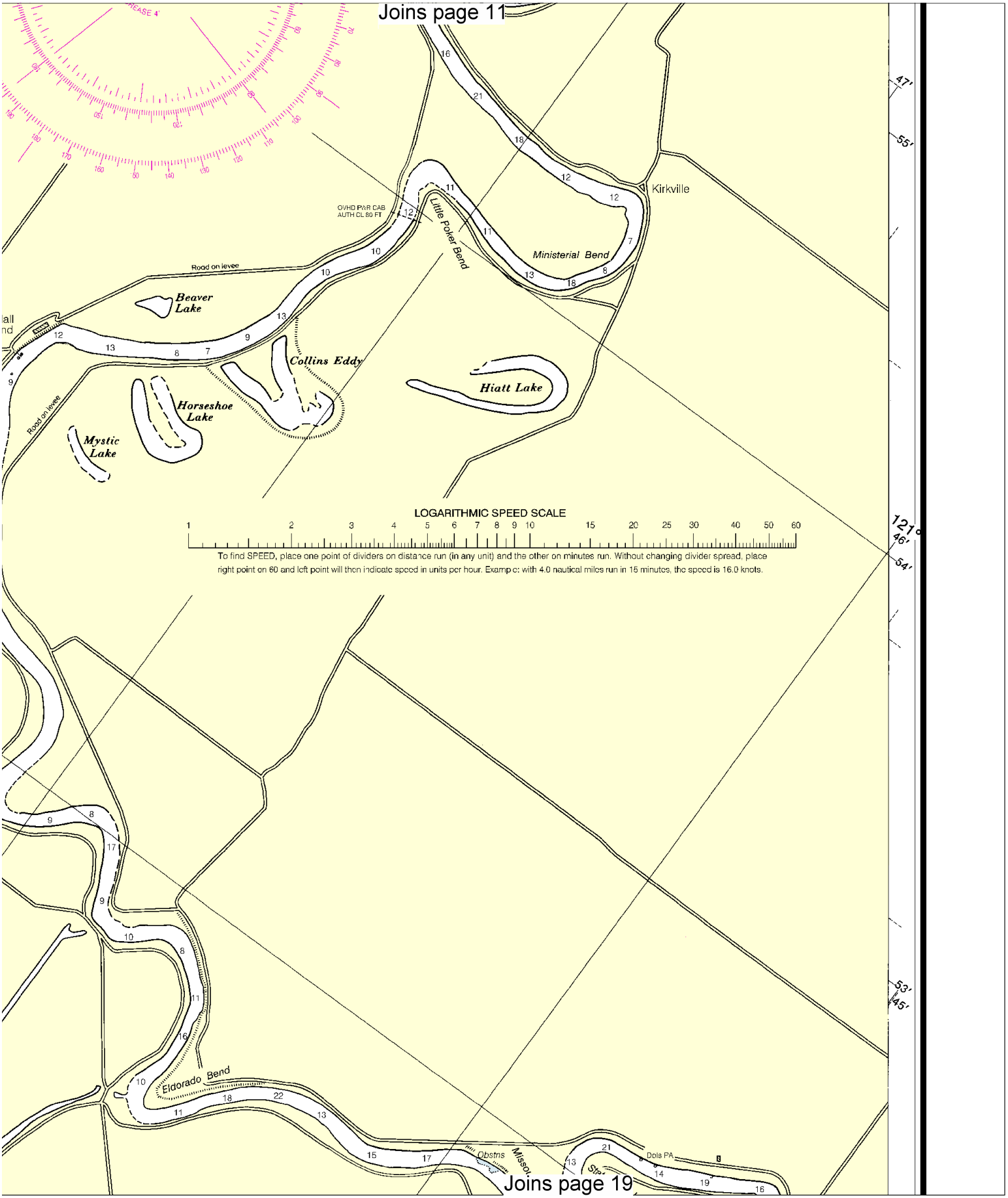


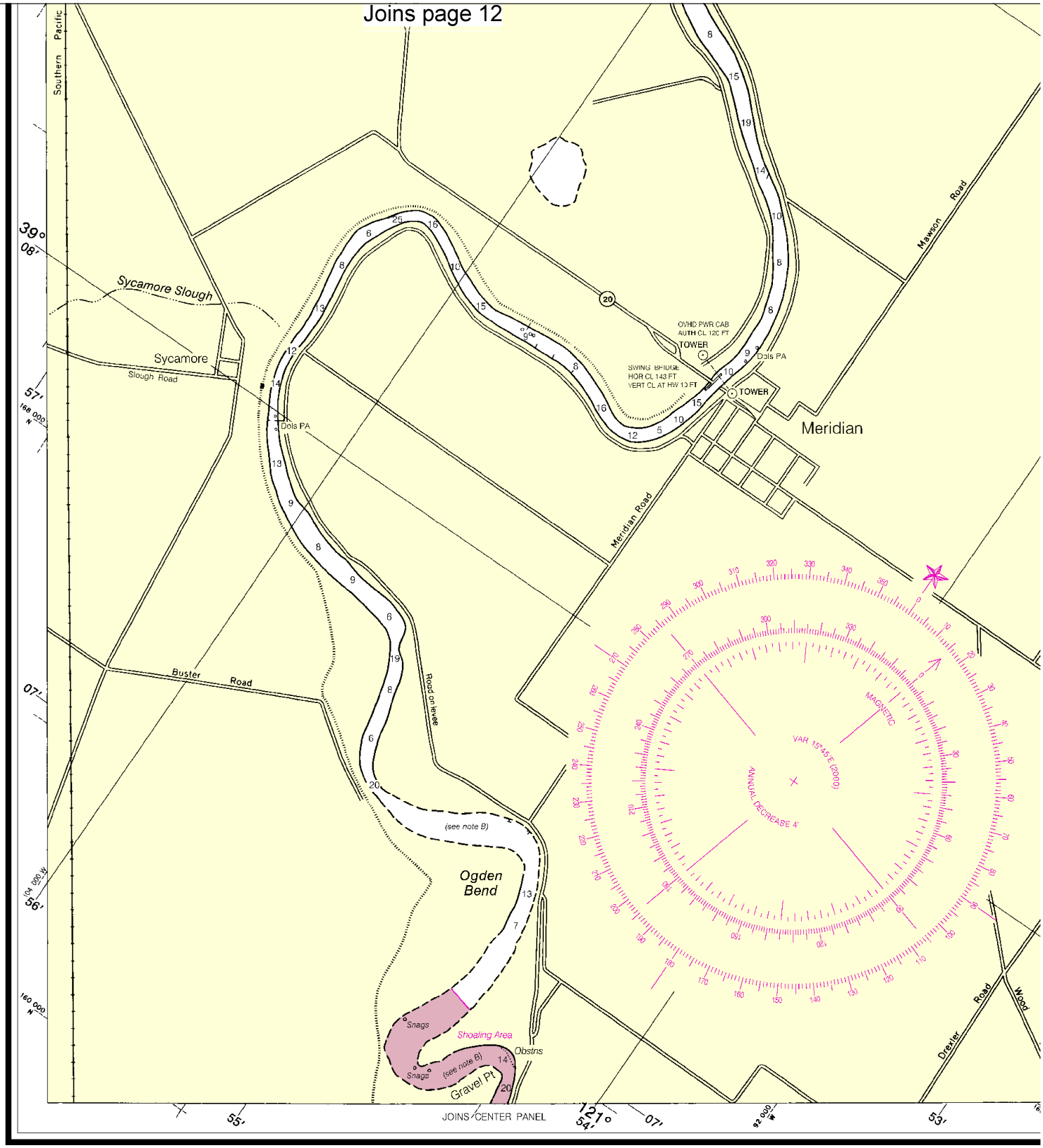
Joins page 18

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500


Joins page 11
Kirkville
OVHD PWR CAB
AUTH CL 80 FT
Little Poker Bend
Ministerial Bend
Road on levee
Beaver Lake
Collins Eddy
Hiatt Lake
Horseshoe Lake
Mystic Lake
Road on levee
LOGARITHMIC SPEED SCALE
1 2 3 4 5 6 7 8 9 10 15 20 25 30 40 50 60
To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.
Eldorado Bend
Obstns
Dols PA
Joins page 19



12th Ed., Aug. 26/00■

18667

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.

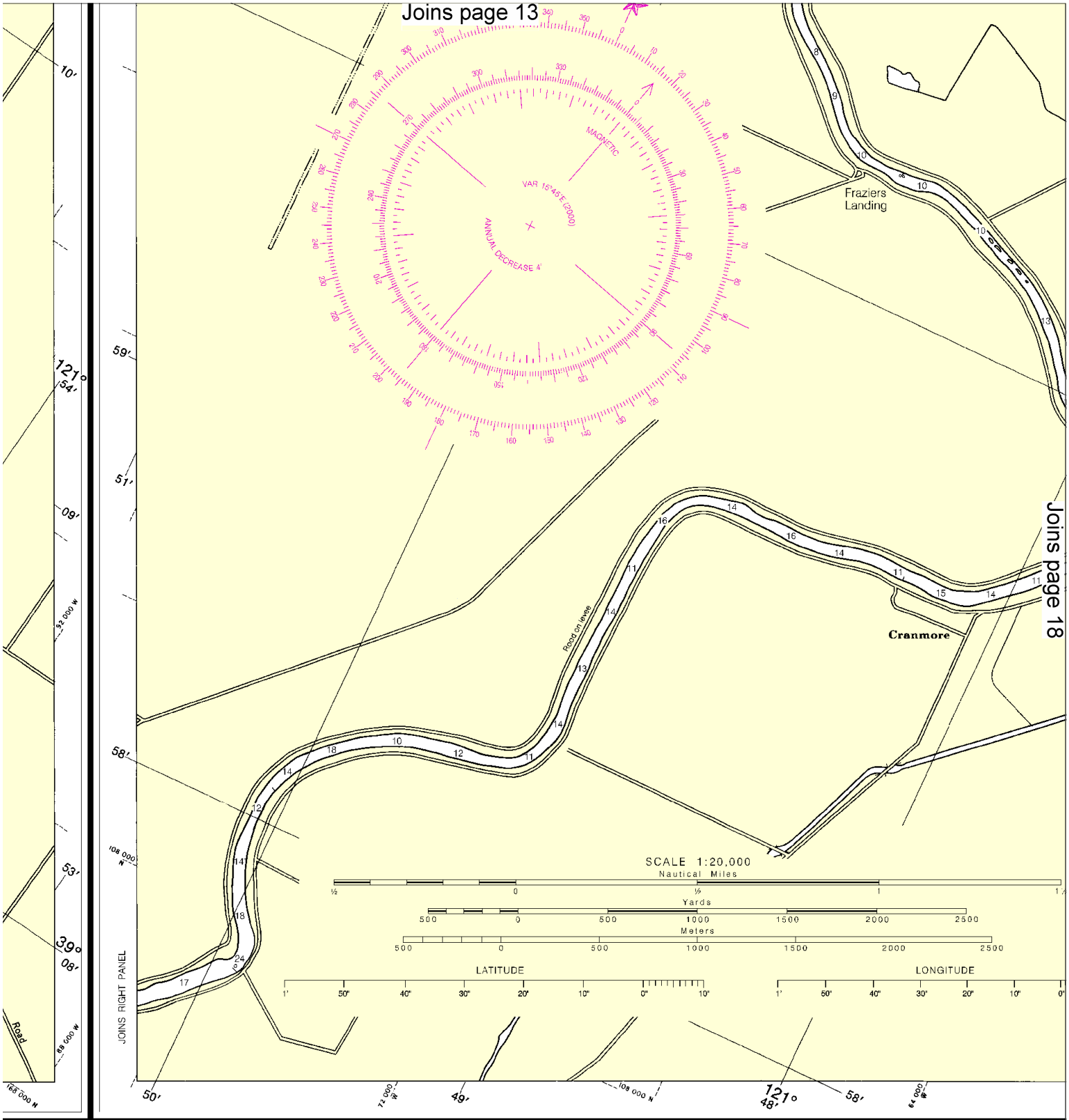
SOUNDINGS IN FEET

16

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500



OUR SEAS AND OUR SKIES

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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

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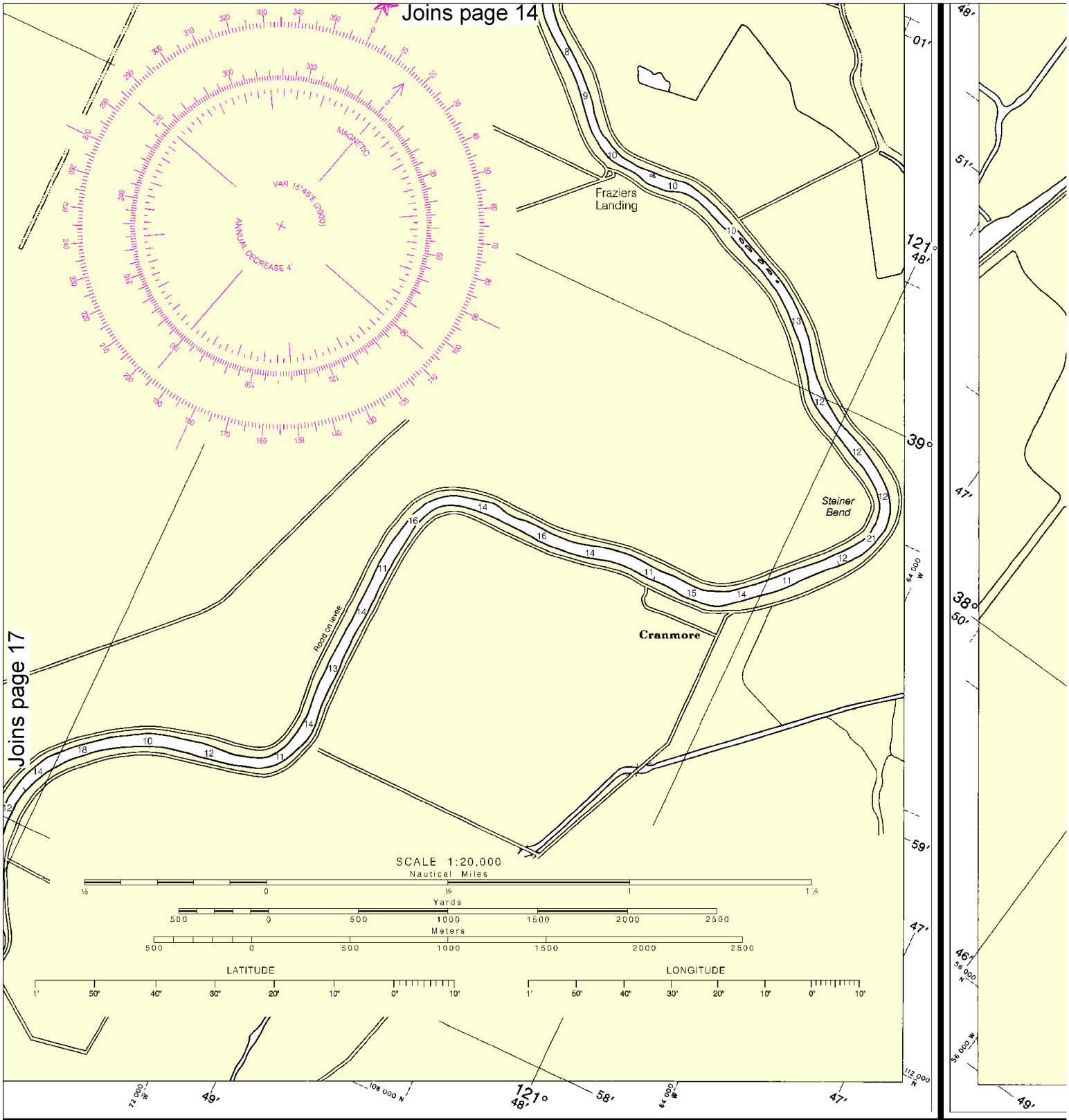

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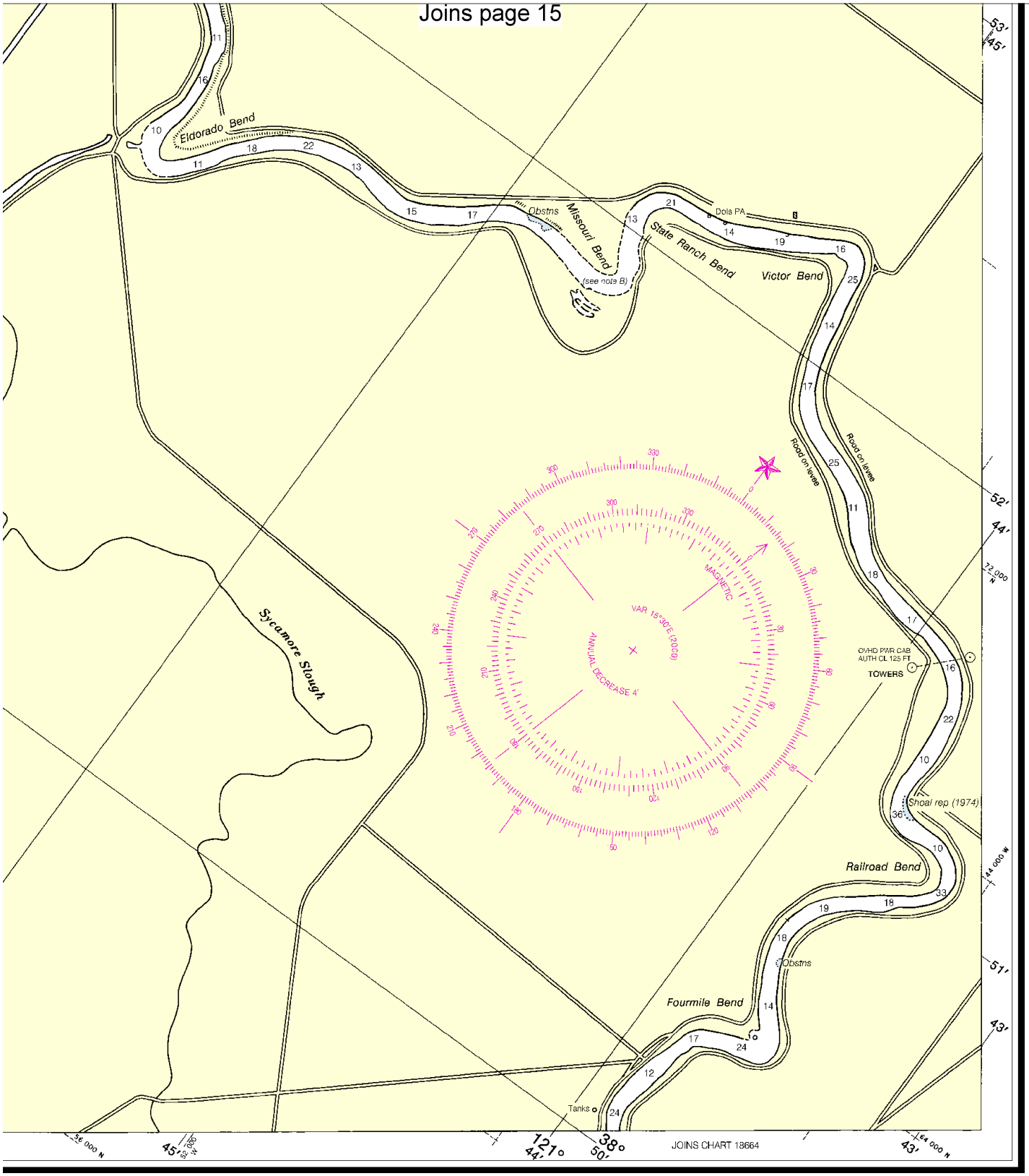
NATIONAL OCEAN SERVICE
COAST SURVEY

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500



(Fourmile Bend to Colusa)

SOUNDINGS IN FEET - SCALE 1:20,000

18667

ED NO. 12

NSN 7642014775018 18AHA18667

NIMA REFERENCE NO.

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

1. Make sure radio is on.
2. Select Channel 16.
3. Press/Hold the transmit button.
4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
5. Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
6. Release transmit button.
7. Wait for 10 seconds – If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS !!

Mobile Phones – Call 911 for water rescue.
Coast Guard Search & Rescue – 510-437-3700
Coast Guard San Francisco – 415-399-3479
Commercial Vessel Assistance – 1-800-367-8222

NOAA Weather Radio – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

NOAA, The Nation's Chartmaker

NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S, including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENCs®) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNCs™) – RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts™ – BookletCharts™ are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketCharts™ – PocketCharts™ are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot® – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm.

Internet Sites: www.NauticalCharts.NOAA.gov, www.NOAA.gov, www.TidesandCurrents.NOAA.gov, www.NOS.NOAA.gov.